

Technical Data Data Sheet 505, Rev.-

# SILICON SCHOTTKY RECTIFIER DIE Very Low Forward Voltage Drop

# **Applications:**

• Switching Power Supply • Converters • Free-Wheeling Diodes • Polarity Protection Diode

### Features:

- Soft Reverse Recovery at Low and High Temperature
- Very Low Forward Voltage Drop
- Low Power Loss, High Efficiency
- High Surge Capacity
- Guard Ring for Enhanced Durability and Long Term Reliability
- Guaranteed Reverse Avalanche Characteristics
- Electrically / Mechanically Stable during and after Packaging

**Maximum Ratings**<sup>(1)</sup>:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	$V_{RWM}$	-	30	V
Max. Average Forward Current	I <sub>F(AV)</sub>	50% duty cycle, rectangular wave form	30	Α
Max. Peak One Cycle Non- Repetitive Surge Current	I <sub>FSM</sub>	8.3 ms, half Sine wave (1)	570	Α
Non-Repetitive Avalanche Energy	E <sub>AS</sub>	$T_J = 25  ^{\circ}\text{C},  I_{AS} = 10  \text{A}, \\ L = 0.90  \text{mH}$	45	mJ
Repetitive Avalanche Current	I <sub>AR</sub>	$I_{AS}$ decay linearly to 0 in 1 $\mu$ s $f$ limited by $T_J$ max $V_A$ =1.5 $V_R$	10	А
Max. Junction Temperature	TJ	-	-65 to +150	°C
Max. Storage Temperature	T <sub>stg</sub>	-	-65 to +150	°C

## **Electrical Characteristics**(1):

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	$V_{F1}$	@ 30A, Pulse, T <sub>J</sub> = 25 °C	0.49	V
	$V_{F2}$	@ 30A, Pulse, T <sub>J</sub> = 125 °C	0.39	V
Max. Reverse Current	I <sub>R1</sub>	@V <sub>R</sub> = 30V, Pulse,	4.0	mA
		T <sub>J</sub> = 25 °C		
	I <sub>R2</sub>	@V <sub>R</sub> = 30V, Pulse,	200	mA
		T <sub>J</sub> = 125 °C		
Max. Junction Capacitance	C <sub>T</sub>	$@V_R = 5V, T_C = 25  ^{\circ}C$	2200	pF
		$f_{SIG} = 1MHz,$		
		$V_{SIG} = 50 \text{mV (p-p)}$		

<sup>(1)</sup> in SHD package

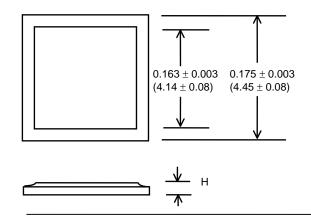
<sup>• 221</sup> West Industry Court ☐ Deer Park, NY 11729-4681 ☐ (631) 586-7600 FAX (631) 242-9798 •

<sup>•</sup> World Wide Web Site - http://www.sensitron.com • E-Mail Address - sales@sensitron.com •

# SENSITRON SEMICONDUCTOR

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### Mechanical Dimensions: In Inches / mm



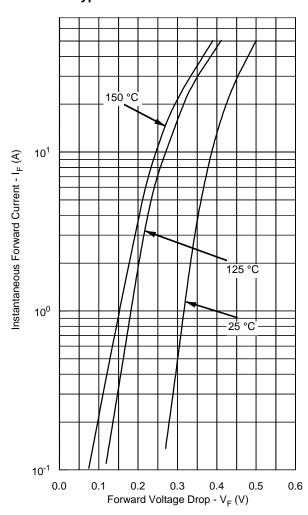
Bottom side metalization Ag - 30 kÅ minimum.

Top side metalization Al - 25 kÅ minimum or Ag - 30 kÅ minimum.

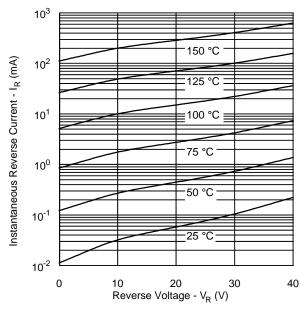
Bottom side is cathode, top side is anode.

Dimension H = 0.0105  $\pm$  0.001 (0.27  $\pm$  0.026) for Al top; Dimension H = 0.0155  $\pm$  0.001 (0.39  $\pm$  0.026) for Ag top.

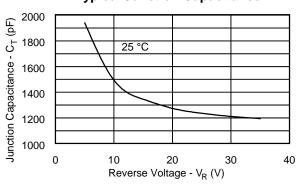
## **Typical Forward Characteristics**



# **Typical Reverse Characteristics**



## **Typical Junction Capacitance**



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